

Background

On July 31, 2018, the federal government passed the Public Law 115-224, known as Perkins V. This act requires career and technical education (CTE) reporting to be “valid, and reliable, and comparable across the State.” Moreover, the act necessitates new participation values that provide more detail about the type and depth of a student’s CTE coursework. TEA is required to report student CTE participation by “career clusters,” to meet the Perkins V legislative requirements.

To meet this legislative need for consistency, reliability, and granularity, TEA implemented a CTE Indicator autocalculation process that uses a student’s course completion data collected in the PEIMS Summer (SUMR) Submission starting in the 2020-2021 school year to derive each CTE participant’s classification. The automated process replaced the manual process that used to be the responsibility of the individual LEAs.

The purpose of this document is to provide LEAs and vendors with a summary of the logic that TEA uses to determine the CTE Indicator Codes for students participating in Career and Technology programs.

Summer and Extended Year Submissions

Beginning in the 2021-2022 school year, PEIMS will begin collecting CTE course completion data in the Extended Year (EXYR) submission as well as in Summer (SUMR). All of the CTE indicator autocalculation instructions below apply equally to SUMR and EXYR logic, except where otherwise noted.

The purpose of this change is to allow students to earn CTE credit for courses taken during the summer portion of the school year.

Note that EXYR CTE indicator autocode calculations will only be performed going forward beginning in 2021-2022, NOT retroactively.

Sections of this document that have been updated for 2021-2022 will be marked with this flag: 2022

Legislation

[The Strengthening Career and Technical Education for the 21st Century Act \(Public Law 115-224\)](#) (Perkins V, the Act, or statute), which reauthorized and amended the Carl D. Perkins Career and Technical Education Act of 2006.

Definitions, Acronyms, and Abbreviations

Note: The five CTE indicators are defined in the “Table Values” section.

Career Clusters – a grouping of occupations and broad industries based on commonalities.

Credit Value – a value used to calculate the number of credits associated with a given course, based on highest of the values for each course in the C022 table.

CTE – career and technical education - career preparation programs that prepare workers to meet employers’ needs in a variety of occupations.

2022 **EXYR** – the Extended Year submission in the TSDS PEIMS data collection

CY – current year

LEA – Local Education Agency. A public school district or open enrollment charter school. Texas has over 1,200 LEAs.

Perkins – the Carl D. Perkins Career and Technical Education Act of 1984 (reauthorized in 1990, 1998, 2006, and 2018) – instituted to provide an increased focus on the academic achievement of career and technical education students, strengthen the connections between secondary and postsecondary education, and improve state and local accountability.

Program of Study (POS) – sequences of academic and CTE coursework to help students attain a postsecondary degree or industry-recognized certificate or credential, as defined in the Perkins grant legislation.

Service ID – an identifier for the services supplied by staff.

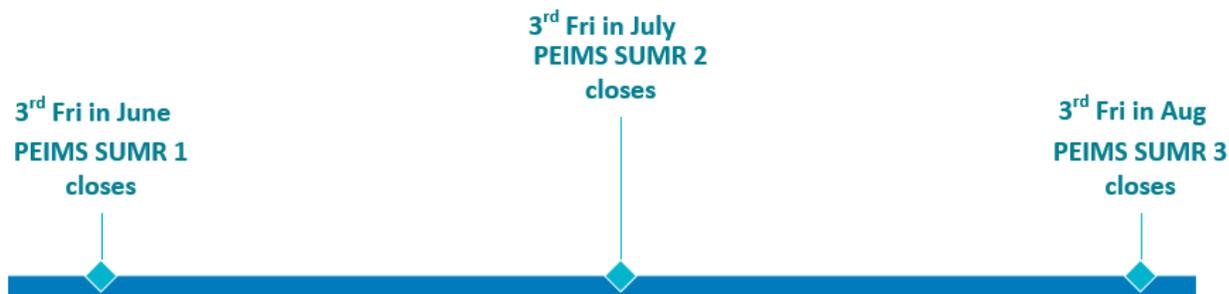
►2022 SUMR – the Summer submission in the TSDS PEIMS data collection

UID – a unique number assigned to a student or staff member by the Texas Education Agency.

CTE Autocalculation Illustrations

CTE Autocalculation Timeline - SUMR

The timeline below shows approximate annual dates for critical events in the PEIMS Summer Submission process. See the [Submission Timelines](#) in the Texas Education Data Standards for exact dates for a particular school year.



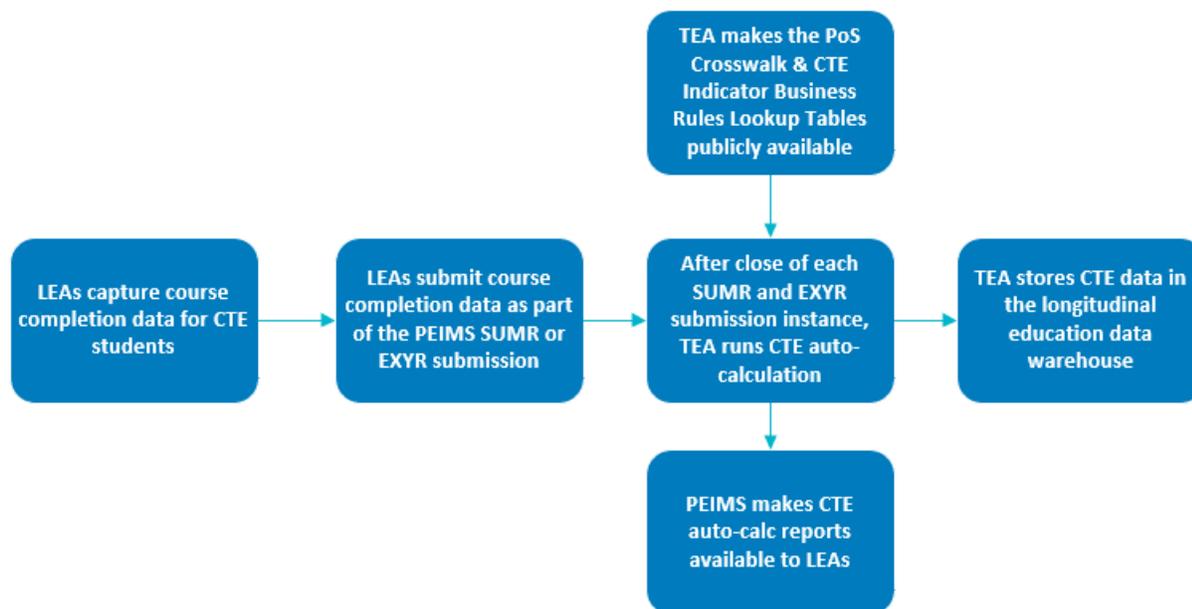
►2022 CTE Autocalculation Timeline – EXYR

The timeline below shows approximate annual dates for critical events in the PEIMS Extended Year Submission process. See the [Submission Timelines](#) in the Texas Education Data Standards for exact dates for a particular school year.



2022 CTE Autocalculation Process

The diagram below illustrates the CTE autocalculation inputs, outputs, and process.



NOTE: All LEAs are required to submit SUMR PEIMS submission data, but EXYR is expected only if the LEA offered certain courses during the summer.

Inputs

The inputs for this calculation are:

- **2022** PEIMS SUMR or PEIMS EXYR Submission
- 20xx-20yy CTE Indicator Business Rules Look-up Tables.xlsx
 - Tab: C220 Programs of Study
 - Tab: POS Service ID Level Credit

- Tab: Federal Career Cluster IDs
- Tab: State Career Cluster IDs
- Tab: C135 Values
- Tab: C136 Values
- Tab: POS Region Crosswalk

TEA updates these spreadsheets annually and makes them publicly available annually in March.

Formulas/Logic

The data for used for these calculations is the certified PEIMS SUMR submission data. The same annual version of the spreadsheet will apply to both SUMR and EXYR autocalculations.

Logic for identifying students and school years to include:

1. **Identify the student population to evaluate for the current year’s CTE calculation:**
 - For the **SUMR** autocalculation:
Include all students who:
 - i. completed **one or more courses** (of any kind—not necessarily CTE) in grades 6 – 12 in the current year’s PEIMS SUMR data **OR**
 - ii. did not have course completion data in SUMR but were **in attendance** at any time in the current school year
 - **2022** For the **EXYR** autocalculation:
Include all students who:
 - i. completed **one or more CTE high school courses** in grades 6 – 12 in the current year’s PEIMS EXYR data

2. **Identify which school years’ data to evaluate for the students in each grade cohorts:**
Find course completion records for each year indicated for students in grades 6 – 12 in the table below:

Grade Level at End of Current School Year	Formula to Select School Years
12	Current Year (CY) CY minus 1 CY minus 2 CY minus 3 CY minus 4 CY minus 5 CY minus 6
11	CY CY minus 1 CY minus 2 CY minus 3 CY minus 4 CY minus 5

10	CY CY minus 1 CY minus 2 CY minus 3 CY minus 4
9	CY CY minus 1 CY minus 2 CY minus 3
8	CY CY minus 1 CY minus 2
7	CY CY minus 1
6	CY

NOTE: The system will use the school years identified above for all students, including those who have repeated or skipped one or more grades, to determine which records to evaluate.

►2022 NOTE 2: EXYR autocalculations will not include data from EXYR submissions prior to 2021-2022, though they WILL include data from SUMR submissions prior to 2021-2022.

3. Identify students with no relevant CTE Service IDs and assign them a 4:

- For the **SUMR** autocalculation:
 - Match the course completion records for all grades and years above to the **current year POS Service ID Level Credit lookup table OR the Non-POS CTE Service IDs table**. (Service IDs with a POS count toward CTE Indicator codes 5, E, 6, and 7, while Service IDs without a POS only count toward CTE Indicator codes 5 and E). **Beginning in the reporting year 2022-2023**, the logic must include course completion data from both SUMR and EXYR submissions to identify students with prior CTE experience. Identify any students who do not have any Course Sequence Code of 0, 2, 5, 9, D0, D2, D5, or D9 for any CTE Service ID. (Students with the specified Course Sequence Codes will be evaluated further in steps 4 and beyond below). Students without the specified course sequence codes are assigned a CTE value of “4” and are excluded from the remaining logic below.
 - For students who were in attendance in the current year but have no course completions AND did not have any CTE course completions in any prior years (grades 6-12), assign a code value of “4”.
- **►2022** For the **EXYR** autocalculation:
 - Match course completion records for all grades and years above to the POS Service ID Level Credit lookup table OR the Non-POS CTE Service IDs table. For the EXYR calculation, the logic must only consider students who have completed a CTE course in the current year’s CTE submission. If the student’s courses that are reported in EXYR do **NOT** match one or more values in one or both of the two tables above, **exclude** the student from the EXYR autocalculation.

- If the student's courses that are reported in EXYR **DO** match one or more values in one or both of the tables above, identify any students who do **NOT** have any Course Sequence Code of 0, 2, 5, 9, D0, D2, D5, or D9 for any CTE Service ID. (Students with the specified Course Sequence Codes will be evaluated further in steps 4 and beyond below). Students without the specified course sequence codes are **excluded** from the EXYR autocalculation.

4. Perform the CTE logic below on the remaining students.

Multiple Instances of Same Service ID/Course Sequence Code/Pass-Fail Indicator

If more than one course completion record for a student has the same Service ID, Course Sequence Code and Pass/Fail Indicator values, only keep the first occurrence of this record. Some service IDs may have multiple Programs of Study and corresponding credit values, state career cluster values, and federal career cluster values.¹

Determining LEAs/Campuses/Grade Levels per Year

LEAs

If a student is enrolled at more than one LEA in the current school year, the system shall associate the student only with the LEA at which they are most recently enrolled (regardless of CTE participation at that LEA). As a result, no student should have more than one grade level per year.

►2022 To determine the LEA for a student, associate the student only with the LEA that corresponds to their **most recent course completion** record from the school year for which the SUMR (or EXYR) data was submitted (regardless of CTE participation at that LEA).²

For any students who don't have a course completion record for the current school year, use the LEA ID that is associated with the latest reporting period for the student's **attendance** record. If more than one LEA is associated with the latest reporting period, use the **numerically largest** LEA ID number as the student's LEA.³

Campuses

►2022 Similarly, to determine the campus for a student, associate the student only with the campus that corresponds to their **most recent course completion** record from the school year for which the SUMR (or EXYR) data was submitted (regardless of CTE participation at that campus).⁴

¹ For example, the course *Medical Terminology I* corresponds to *three* Programs of Study (Health Informatics; Medical Therapy; & Healthcare Diagnostics). In this case, the system would write three records for the single Service ID – one for each Program of Study.

² For example, Alonzo completed a CTE course in Fall in Frognot ISD. His most recent course completion was at Bugscuffle ISD for the Spring semester, where he did NOT take a CTE course. The CTE indicator is credited to Bugscuffle ISD.

³ Note that this is an interim solution until ODS 3.x is implemented, at which point we will be able to use effective dating to determine the last LEA/campus attended.

⁴ For example, Alonzo completed a CTE course in Fall at the Blackland Academy of the Sciences. His most recent course completion was at the Crosstimbers School for the Fine Arts for the Spring semester, where he did NOT take a CTE course. The CTE indicator is credited to Crosstimbers School for the Fine Arts.

For any students in SUMR who don't have a course completion record for the current school year, use the Campus ID that is associated with the latest reporting period for the student's **attendance** record. (This instruction is not relevant to EXYR because students with no course completions will be excluded from the EXYR calculation.)

If more than one campus is associated with the latest reporting period, use the **numerically largest** Campus ID number as the student's LEA.

Grade Levels

►2022 To determine the grade level for a student, use the grade level for the student's most recent course completion. The calculation shall use SUMR grade data for BOTH SUMR and EXYR calculations. For any students who don't have a course completion record for the current school year, use the grade level associated with the LEA identified above.

Logic for calculating CTE Indicator and Program of Study ID

Table Values⁵

Code	Title	Definition
4	Not CTE	A student who never enrolled or who did not complete any high-school CTE course as defined by 19 TAC Chapter 126 (C), 127 (B) or 130.
5	CTE Participant	A student completing one or more courses for less than two credits, defined by 19 TAC 126 (C), Chapter 127 (B) or 130 (the student does not have to pass or receive credit).
E	CTE Explorer	A student completing two or more high school CTE courses for a total of two or more credits defined by 19 Chapter (C), 127 (B) or 130 and not a participant, concentrator, or completer (the student does not have to pass or receive credit).
6	CTE Concentrator	A student completing and passing two or more chapter 126 (C), 127 (B) or 130 CTE courses for a total of at least two credits within the same program of study and not a completer in the same program of study.
7	CTE Completer	A student completing and passing three or more chapter 126 (C), 127 (B) or 130 CTE courses for 4 or more credits within a program of study, including one level 3 or level 4 course from within the same program of study.

►2022 Prior to **2021-2022**, the SUMR calculations must look at prior year SUMR data (as well as current year data) to complete the logic below.

⁵ In 2019-2020 and previous school years, the "Tech Apps" courses in some programs of study are documented in TAC Chapter 126 (C). Starting with the 2020-2021 school year and beyond, the Tech Apps courses are located in TAC Chapter 130 with the same PEIMS service ID numbers.

In **2021-2022**, both calculations (SUMR AND EXYR) must look at prior year SUMR data (as well as current year data) to complete the logic below.

Beginning **2022-2023**, both calculations (SUMR AND EXYR) must look at prior year SUMR AND EXYR data (as well as current year data) to complete the logic below.

1. Go through the logic for Code 7 first:

Use the POS Service ID Level Credit lookup table (which was added to TEDS in 2019-2020, is updated annually, and lists all of the approved statewide and regional programs of study and their unique identifier codes) to identify students completing three or more courses (service IDs) for four or more credits in the *same program of study*, with at least one course being a level 3 or 4; Pass/Fail Indicator must equal 1 – assign CTE Indicator “7”. Record the Program of Study ID for every instance of a unique Program of Study.

Note: The credits are determined from the course units in the [Service-ID C022 table](#), not from the credits awarded by the district on the transcript. If there is a range of credits, use the highest value in the range.

Note 2: A small set of Service IDs do not have a program of study. These courses (which are documented in the Non-POS CTE Service IDs table in the 20XX-20XY CTE Indicator Business Rules Look-up Tables.xlsx) count toward the E and 5 CTE indicator values, **but do not** count toward indicators 6 or 7.

2. Next go through logic for Code 6:

Use the current year C022 service ID lookup table to identify students completing two or more courses (service IDs) for at least two credits within the *same program of study*; Pass/Fail Indicator must equal 1 – assign CTE Indicator “6”. Record the Program of Study ID for every instance of a unique Program of Study. (Do not assign a “6” for the Program of Study if a “7” was already for that Program of Study.)

3. Next go through logic for Code E:

Identify students who are not a “7” or “6” but who have two or more courses (Service IDs) in the current year POS Service ID Level Credit service ID lookup table **OR** the Non-POS CTE Service IDs table. The students’ Pass/Fail Indicator can be any value – assign CTE Indicator “E”. Do not write a Program of Study value.

(See Note on step 1 for more information on non-POS CTE Service IDs.)

Note: There is one exception to the E indicator not having a Program of Study – see regional indicator requirement, section “Logic for populating corresponding Program of Study Indicator”, 1.d.ii.

4. Next go through logic for Code 5:

Identify students completing one or more courses (Service IDs) in the current year POS Service ID Level Credit lookup table **OR** the Non-POS CTE Service IDs table for less than two credits; Pass/Fail Indicator

may be any value – assign CTE Indicator “5”. Do not record a Program of Study value.

At this point, all students will have a CTE Indicator code of 4 through 7.

5. Next populate the column Statewide or Regional Program of Study Indicator:

Use the C220 PROGRAM-OF-STUDY-CODE code table to identify the Statewide or Regional Program of Study Indicator.

Multiple Instances of CTE Indicator Codes

The same student may have more than one CTE indicator code. First, identify every instance where the student qualifies for CTE Indicator Code 7 in a unique Program of Study. Next, identify every instance where the student qualifies for CTE Indicator Code 6 in a unique Program of Study and did not also qualify as a CTE Indicator Code 7 in the same Program of Study.

Calculating across Years and Programs of Study

When calculating course credits for Service IDs corresponding to a 6 or 7, sum credits from all school years within the same Program of Study. If a Service ID corresponds to a 5 or E, course credits are calculated across all school years **and** all Programs of Study.

Logic for identifying corresponding Program of Study Indicator (S or F), State Career Cluster ID, Federal Career Cluster ID; and School Year

1. Based on the Program Study ID that was determined above and the logic below, identify the corresponding Program of Study Indicator, Statewide or Regional Program of Study Indicator, State Career Cluster ID, and Federal Career Cluster ID.

NOTE: A service ID can apply to more than one Career Cluster and/or Program of Study.

Go to this link <https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/approved-cte-programs-study> for a complete listing of those Service IDs associated to a Program of Study.

- a. Only CTE Codes 6 and 7 will have a Program of Study Indicator, Statewide or Regional Program of Study Indicator, State Career Cluster ID, and Federal Career Cluster ID. Do not populate any of these fields for CTE Codes 4, 5, or E unless the regional program of study is in an unapproved region.
- b. One student may have more than one Program of Study in different career clusters with corresponding indicators.
- c. Assign the corresponding Statewide POS Indicator (S), State Career Cluster ID, and Federal Career Cluster ID for the Program of Study Indicator. If the POS Indicator is S, skip step d and all of its sub-steps.
- d. If the POS Indicator is R, assign the corresponding Regional POS indicator by looking up the valid Regions for the Regional POS.

- i. Use the [Regional Programs of Study At a Glance Document](#) to determine if the student’s Geographical Region is valid for the POS; if yes, write the Region Indicator (R) and retain the student’s previously determined CTE indicator value of 6 or 7.
 - ii. If the student’s Geographical Region value is not one of the valid regions for the POS, change the CTE Indicator from a 6 or 7 to E and retain the Program of Study value and the corresponding Region Indicator (R) from CTE Service ID Lookup table.
2. Assign the same school year to all records for one student. Assign the year of the latest CTE course completion record.

Unnecessary CTE Indicators

TEA only records a student’s highest and most recent indicator codes. If a code has been superseded by a later classification, the earlier code is not recorded.

Suppress Low Indicators for Students with 6s or 7s.

If a student has any Service IDs that are rated as a 6 or 7, the table suppresses any rows for 4’s, 5’s, or E’s. (The exception to this is any 6s or 7s that were demoted to E's as part of Step 1.d.ii.)

Example:

School Year	Service ID	POS	Credit	CTE Indicator	Action
2016	11111111	POS A	2	5	suppress
2017	22222222	POS B	2	6	display
2018	44444444	POS C	2	6 demoted to E	display

Note: In the above scenario, 2018 is an example of a regional program of study offered in an unapproved region. The student transfers to an LEA in a region not approved for the regional program of study.

Suppress Non-Latest School Years

Suppress any prior year row where the CTE indicator is NOT the latest year in which the student achieved a CTE rating for a given Program of Study. As noted previously, any school years are updated to match the most recent school year for which the student has completed a CTE course.

EXAMPLES:

Original data:	Service ID	CTE Indicator	Program of Study
2018	78787878	6	POS A
2019	89898989	6	POS B
Output:			
2019	78787878	6	POS A

2019	89898989	6	POS B
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In the example above, courses in two different Programs of Study qualify as 6s, and consequently, both need to be calculated and retained in 2019. Because the course in Program of Study B is the most recently completed CTE course (2019), the school year for the earlier course in Program of Study A is updated to 2019.

History	School Year	Service ID	LEA	CTE Indicator	Program of Study
First reported in 2016	2016	33333333	LEA A	6	POS A
Autocalc performed in 2019	<u>2019</u>	33333333	LEA B	E	[POS A not approved for Dist. B region]
New course taken in 2019	2019	44444444	LEA B	5	POS B

In the example above, the student took course 33333333 in a region that was authorized for Program of Study A. Then the student moved to LEA B in a different region that was NOT authorized for Program of Study A. Consequently, when TEA ran the autocalculation in 2019, the student’s original 6 was demoted to an E and the school year for course 33333333 was updated to match the latest completed CTE course in the student’s record, namely 44444444 in 2019.

Student never completed a CTE	CTE Indicator	Comments
2019	4	(only appears once in R&A output)

In the scenario above, a senior student has never completed a CTE course in their entire career. TEA only needs the latest school year, so a single row is recorded for that student, and is populated with the current year.

Suppress Lower Indicators within a POS

If student is a 7 within a Program of Study, any other Service IDs within that Program of Study (including 6s) are suppressed.

School Year	Service ID	POS	Credit	CTE Indicator	Action
2016	21212121	POS A	2	5	suppress
2017	32323232	POS A	2	6	suppress
2018	43434343	POS A	2	7	display

APPENDIX

See also:

- CTE Autocalculation – Basic Decision Tree
- CTE Autocalculation – Scenarios Illustrated
- CTE Autocalculation – Scenarios Worksheet
- CTE Autocalculation – Business Rules